

cell phone. There were 230 (88.1%) partners or contactors who were successfully contacted and 153 (66.5%) of them had accepted the HIV preliminary screen. The confirmed test result revealed that the syphilis positive rate was 6.5% ($n = 10$) and HIV positive rate was 10.5% ($n = 16$). The reasons for partners to not undergo screening included that they were the partner of previously diagnosed with HIV ($n = 24$; 31.17%). There were 27.15% (41/151) of partners or contactors who had used the recreational drug while having a sex. There were 29 (70.73%) of partners or contactors recognized using the rush in the past. We analyzed the community data only and found that there were 592 preliminary HIV screenings had been completed. The HIV positive rate was 6.58% ($n = 39$). There were 12 (30.7%) cases called back to the counselor to get the preliminary HIV positive result and 9 (75%) of them had the accompanying and arrangement by the counselor to the outpatient department and accepted the Western Bolt test.

Conclusion: The community model of partner notification services provided an advanced method for establishing the relationship with high risk cases and therefore improved the overall effectiveness of partner notification and contact tracing. It is suggested that the analysis to different partner notification counseling for the cost-effectiveness could be done in the future.

PS 1-039

INTERVENTIONS TO SUSTAIN ANTENATAL HIV SCREENING TAKE-UP RATE

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Purpose: KKH embarked on a program of voluntary opt-in antenatal HIV screening since August 1998 in order to decrease mother-to-child (MTC) HIV transmission. The initial low antenatal HIV take-up rate led to a structured workflow from 2004 to increase the take-up rate. The aims of the study are: to report the 1) antenatal HIV uptake rates, 2) pregnancy outcomes of HIV positive mothers.

Methods: A baseline audit in February 2004 for HIV antenatal testing rates was done. A new workflow was started in 2004 to incorporate HIV into the routine opt-out antenatal screening package and counselling patients who refused testing. HIV positive pregnant women were given antiretroviral treatment (ART) antenatally, intrapartum and postnatally to the newborn. In August 2010, an Infectious Diseases Resource Manager was recruited for this project. Her roles included advising post-natal mothers not to breast-feed and monitoring compliance to ART for the newborn.

Results: The baseline HIV take-up rate in 2004 was 38.1% (106 of 278). Post-intervention, this improved to 99.7% - 100%. The most common reasons for opting-out included: unnecessary testing, prior testing and refusal by husband. HIV was positive in 0.14% (107 of 78151) antenatal patients. Pregnancy outcomes for HIV positive patients were: 90 (84.1%) live births in Singapore, 1 (0.9%) delivery in mother's native country, 6 (5.5%) terminations of pregnancy (TOP), 2 (1.9%) mid-trimester pregnancy terminations (MTPT), 3 (2.8%) lost to follow-up. Only 1 child (1/107, 0.9%) was infected with HIV despite ART. There was no difference in age or nationality between patients that underwent TOP/ MTPT versus live births. No long-term side-effects in the uninfected children were seen on follow-up.

Conclusion: The structured workflow and counseling resulted in a high and sustained HIV antenatal testing rate of 99.7% - 100% and decreased the MTC transmission rate to 0.9%.

PS 1-040

ACQUIRED IMMUNE DEFICIENCY SYNDROME WITH FATAL PNEUMONIA PROBABLY CAUSED BY CYTOMEGALOVIRUS (CMV): A CASE REPORT

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Purpose: *Pneumocystis jiroveci* pneumonia (PCP) is the most common infection in HIV patients with ground-glass opacities on chest film, however, cytomegalovirus (CMV) pneumonia may occur with similar features to PCP.

Case report: The 38 y/o man was generally well before but had taste disturbance (alteration of taste) for one month, thus causing poor appetite and loss of 5-kg body weight in recent weeks. He had general malaise, fever and cough with whitish sputum for 2 weeks. He came to our Emergent Room, where

tachycardia, normocytic anemia and increased C-reactive protein level were noted. The chest film showed mixed alveolar and interstitial infiltration over both lung fields. There was no headache, chest and abdominal pain, nausea/vomiting, diarrhea, dysuria or tea-color urine. He was admitted with suspected atypical pneumonia and received parenteral moxifloxacin. But dyspnea and ground-glass interstitial infiltration worsened. Anti-HIV antibody and Western blot results were positive. CD4 count was 29/ μ L and CD4/CD8 was 16%. He received intravenous sulfamethoxazole/trimethoprim (1200/240 mg every 6 hours), minocycline (100mg every 12 hours) and imipenem (500 mg every 6 hours). He was intubated due to progressive hypoxemia on the third hospitalized day, and parenteral hydrocortisone 100 mg every 8 hours was added. The serology results of *Mycoplasma*, *Chlamydia*, *Legionella* and Influenza A/B were all negative. Serial sputum cytology tests showed scattered inflammatory cells without characteristic foamy alveolar exudate to suggest PCP and the Gomori methenamine silver stains were negative. Combivir and stocrit were added. However, profound shock and hypoxemia progressed and the patient died on the 9th day of hospitalization. The final sputum PCR for CMV was positive, but the CMV antigenemia was negative.

Conclusions: CMV pneumonitis should be early considered in a HIV patient with pneumonia as the clinical features could mimic PCP.

PS 1-041

THE PREVALENCE OF GENOTYPE, RISK GROUPS, AND DRUG-RESISTANT TO HAART IN TREATMENT NAÏVE HIV-1 INFECTED PATIENTS IN SOUTHERN TAIWAN, 2004 TO 2013

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Purpose: The aim of this study is to investigate the prevalence of drug resistance in treatment naïve patients from 2004 to 2013.

Methods: A total of 283 cases were included. The drug-resistance was detected by using TRUGENE® HIV-1 Genotyping Assay (Siemens) for gene amplification and GeneObjects® software (version 4.1, Siemens) for analysis of resistance associated mutation.

Results: Among the 283 patients, 255 (90.1%) were male, 154 (54.4%) were intravenous drug user (IDU), 76 (26.9%) were men who have sex with men (MSM), and 48 (17.0%) were heterosexuality. Genotype (GT)-CRF07_BC (55.1%) was predominant in IDU (95.5%). GT-B (37.1%) was predominant in MSM (71.4%) and heterosexuality (21.0%). GT-CRF01_AE (7.8%) was predominant in heterosexuality (86.4%). Any drugs resistances were 6.4% (all genotype), 12.4% (GT-B), 2.6% (GT-CRF01_AE), and 4.6% (GT-CRF07_BC). The resistant rates were 14.5% in MSM, 4.2% in heterosexuality, and 2.6% in IDU. For the 18 drug-resistance cases, 4 (1.4%) had NRTIs resistance, 11 (3.9%) had NNRTIs resistance, 3 (1.1%) had resistance to both NRTIs and NNRTIs, and none was resistant to PIs. The major mutation associated with NRTIs resistance were M184V (42.9%) and K65R (28.6%), and NNRTIs was K103N (57.1%).

Conclusions: The overall drug-resistant rate of HAARTs was 6.4% in treatment naïve HIV-1 infected patients. The resistant rate was higher in GT-B and MSM.

PS 1-042

STATINS AS ADD-ON THERAPY FOR CHRONIC HEPATITIS C: A META-ANALYSIS

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Purpose: The current standard therapy for chronic hepatitis C, the combination of pegylated interferon (PEG IFN) and ribavirin (RBV), has a 50% failure rate in achieving sustained virologic response (SVR). The use of add-on protease inhibitors, such as boceprevir or telaprevir, results in SVR of as much as 70%; however, marked anemia, anorexia, and neutropenia have been reported in the use of the triple regimen. This meta-analysis aims to determine the efficacy and safety of statins as add-on therapy with PEG IFN and RBV for chronic hepatitis C.

Methods: A thorough search was done using the key terms "statin" and "hepatitis C." Six RCTs were included with a total of 704 patients. The proportion of patients achieving SVR was treated as dichotomous variables. Statistical analysis was done using the Peto Method with fixed-effect analysis model, and Peto odds ratio as effect measure. Weighted averages were reported as relative risks with associated 95% confidence interval. Abstracted data were then analyzed using Review Manager 5 program.

Results: Results showed that triple therapy with PEG IFN, RBV, and statin was superior to standard therapy of PEG IFN and RBV in achieving SVR [RR 0.42 CI 95% (0.31, 0.57)] and RVR [RR 0.25 CI 95% (0.11, 0.58)]. No heterogeneity was found between studies for SVR ($I^2 = 0$; $P = 0.80$) and RVR ($I^2 = 0$; $P = 0.51$).

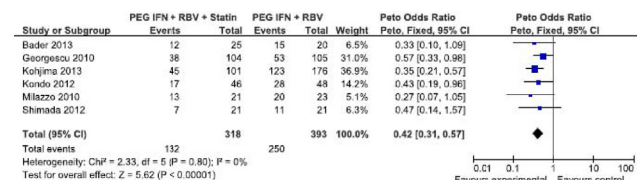


Figure 1 Effect of PEG IFN+RBV+statin versus PEG IFN+RBV on SVR rate in patients with chronic hepatitis C. RR, relative risk; CI, confidence interval.

Conclusion: Statins are effective and safe as add-on therapy for chronic hepatitis C.

PS 1-043

RELATIVE TIMING OF PEDIATRIC RESPIRATORY INFECTIONS BY AGE

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Purpose: Respiratory infections are major cause of pediatric burden in ambulatory care. Understanding of how respiratory illness spreads through communities is needed to inform control programs. Investigations into age-related variations in seasonal trends, however, require large data with high precision.

Methods: The study dataset is a nationally representative, random sample of 198,688 Taiwanese children aged 0–9 years from the 2005 National Health Insurance Database. Weekly incidence of acute respiratory infection (ARI) (ICD-9 codes 460–466) and pneumonia/influenza (P&I) (ICD-9 codes 480–488) were calculated and fitted in a sinusoidal model by age (in years), with a fixed wavelength of one year, for the period 2000–2005. The time in year where the peak incidence occurred was estimated from the sinusoidal models, and compared among results from (1) individual-level analyses, assuming the same sinusoidal models; and (2) epidemic midpoints, defined as the time by which the cumulative incidence was 50% between the -154th and +210th day (New Year as day 0).

Results: Mean incidence of ARI (209–250 per 1,000) and P&I (9–10 per 1,000) were highest among children aged 0–4 years, above which each year older was associated with lower mean incidence. We observed a significantly earlier annual peak among children 4 years of age compared with younger and older ages, for both ARI (week -1.6, 95% CI -2.4 to -0.8) and P&I (week 1.0, 95% CI -0.3 to 2.3). The leading trends at age 4 years were confirmed by individual-level sinusoidal models (week of peak incidence -1.6 [ARI] and 1.7 [P&I]) and epidemic midpoints (week 2.1 [ARI] and 3.1 [P&I]).

Conclusions: Children 4 years of age presented for ARI or P&I earlier than younger and older ages. Age-related differences in seasonal trends may add insights into ARI and P&I transmissions.

PS 1-044

MASSIVE LOWER GASTROINTESTINAL BLEEDING WITH HYPOVOLEMIC SHOCK IN A CRITICALLY ILL PATIENT CAUSED BY CMV PROCTITIS

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The cytomegalovirus (CMV) disease plays an important role in immunocompromised patients. As to the patients with critical illness, the significance of CMV disease is not well understood. We reported an 83-year-old woman, who underwent hemodialysis for diabetic nephropathy with end-stage renal disease, was admitted due to urosepsis, following massive lower gastrointestinal bleeding, which was related to CMV infection and the response was dramatically good after use of ganciclovir.

PS 1-045

THE FREQUENCY OF HCV GENOTYPE AND INDIVIDUAL CHANGE OF HCV GENOTYPE IN IVDU RELATED HIV/HCV CO-INFECTION PATIENTS WITHOUT ANTI-HCV TREATMENT

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Purpose: The aim of this study is to investigate the prevalence of HCV genotype (GT) and the change of GT in IVDU related HIV/HCV co-infection patients without receiving anti-HCV treatment.

Methods: From 2005 to 2012, a total of 71 cases of IVDU related HIV/HCV co-infection were included. GT of HCV was determined by PCR targeting the NS5B region and sequencing. The change of HCV GT in each case was determined in those who had paired blood sample available.

Results: All of the 71 cases had their first HCV GT determined from 2005 to 2009, including GT-1 (39.4%, 1a [26.7%] and 1b [12.7%]), GT-6 (22.5%, 6a [19.7%], 6b [1.4%], and 6g [1.4%]), GT-3 (21.1%, 3a [19.7%] and 3b [1.4%]), GT-2 (15.5%, 2a [4.2%] and 2b [11.3%]), and GT-5a (1.4%). Sixty-eight (95.8%) cases had their second HCV GT determined from 2010 to 2012, including GT-1 (47.1%, 1a [33.9%] and 1b [13.2%]), GT-6 (22.1%, 6a [20.6%] and 6g [1.5%]), GT-3 (20.6%, 3a [19.1%] and 3b [1.5%]), and GT-2 (10.2%, 2a [2.9%] and 2b [7.3%]). The mean duration between the first and second test was 1809 ± 467 days. Twenty (29.4%) case had change of HCV GT. The frequency of change of each GT were 6/10 (60.0%) of GT-2, 5/15 (33.3%) of GT-3, 5/15 (33.3%) of GT-6, 3/27 (11.1%) of GT-1, and 1/1 (100%) of GT-5. Eight (19.5%) of 41 non-GT-1 cases had changed to GT-1.

Conclusions: Near 30% of IVDU related HIV/HCV co-infection cases have change of HCV GT without anti-HCV treatment.

PS 1-046

WHAT ARE YOU BRINGING HOME – HELPING THE HEALTHCARE WORKER PROTECT THEIR FAMILY FROM DISEASE, INFORMATION AND ADVICE

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Health care-associated infections are a common problem globally. Health care workers (HCW) and patients are at high risk of acquiring the infections, and also transmitting the infections. Most studies identified risks of doctors and nurses with direct contact with patients but not many study concentrate on the risk of HCW with indirect contact with patients, especially environmental services staffs/housekeeping staffs. These workers are in contact with the patients indirectly, and have been overlooked in the risk assessment. These workers, in addition to the doctors and nurses may act as reservoir and transmit the disease to their family members, spreading the infections unknowingly. Most of the infections are transferred through contact, direct and/or indirect, from surfaces contaminated with the microorganisms. This presentation will highlight the mode of transmission from the obvious surfaces such as patient's table to the less obvious mode such as the air in the room of an infected patient after/during house-keeping. This presentation will also identify the most vulnerable family members and provide a step-by-step